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ABSTRACT

In March 1982, the Minnesota Division of Vocational-Technical Education received requests from State legislators to develop an action plan to address the problems of declining enrollments and resources. In response to this request, a plan was developed whereby area vocational-technical institutes (AVTIs) in the State would (1) promote a process for the review of programs and support services currently in operation in the AVTIs and (2) make a statewide effort to promote voluntary collaboration and cooperation among postsecondary institutions. At the same time that aid to AVTIs was reduced, tuition paid by students was increased. Included among the strategies that were suggested for increasing cooperation among AVTIs to solve some of the problems caused by declining resources were the following: joint programs, including specialization and transfer; rotation of offerings on a 1-year basis; development of a single recruitment plan and single course catalog; implementation of joint bookkeeping and recordkeeping programs; maintenance of a central placement office and a single administration involving host districts and satellite campuses; development of processes for sharing financial aid offices with paraprofessionals at each campus; and formulation of arrangements for joint purchasing, recreation programs, and teacher inservice programs. (MN)

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MINNESOTA AREA VOCATIONAL-TECHNICAL INSTITUTES

A PLAN TO ADDRESS

DECLINING ENROLLMENTS AND RESOURCES

Submitted by the

STATE BOARD FOR VOCATIONAL EDUCATION

to the

MINNESOTA STATE LEGISLATURE

January, 1983

CE 042 886

U.S. DEPARTMENT OF EDUCATION
NATIONAL INSTITUTE OF EDUCATION
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INTRODUCTION

The people of Minnesota place a high value on quality education. Over the years this enduring commitment has been translated into educational programs and services that have served the citizens and state well. Today changing conditions that threaten the ability of the state to maintain its standard of quality education are of concern to educators, legislators, and citizens. Whereas declining enrollments have been an issue of concern to educators for a number of years, more recently the fiscal condition of the state has resulted in a decline in the resources available for educational purposes. These issues--declining enrollments and resources--were the focus of debate and legislative activity during the 1982 session.

In March of 1982, the Division of Vocational-Technical Education received requests from Representative Lyndon Carlson, Chairman of the Education Division House Appropriations Committee, and Senator Tom Nelson, Chairman of the Higher Education Division, to develop a plan for the area vocational-technical institutes (AVTI) system, which would address the problems of declining resources and enrollments. These requests were made because H.F. 2 and H.F. 2190, which would have legislated such planning, had not been enacted for reasons totally unrelated to educational issues. Representative Carlson requested that a plan addressing these issues be submitted to the legislature in early January, 1983.

The Division of Vocational-Technical Education, aware of these conditions as well as of technological developments affecting jobs, workers, and vocational-technical education, had already begun a statewide planning effort in October, 1981. This effort, which began with a two-day workshop entitled, "Planning and Managing for Change," was to provide a consistent orientation to the process of planning in preparation for the development of a statewide comprehensive plan for vocational-technical education. Activities related to this goal have been ongoing since that time. Therefore, when the request to conduct planning for the AVTIs was received, the Division decided to use the same planning approach as had been adopted for the comprehensive plan. This decision was made with the recognition that complete coordination of the comprehensive plan with the AVTI plan probably would not be possible. Deliberate efforts have been made to keep both the AVTI planners and those vocational educators involved in the statewide planning work informed of each others planning activities. The plans appear to be consistent in concept, although there may be differences in the use of language. A final draft of major parts of the statewide plan is scheduled for completion during the winter of 1983. The plan focusing on the AVTIs and the conditions of declining enrollments and resources follows.

PLANNING APPROACH

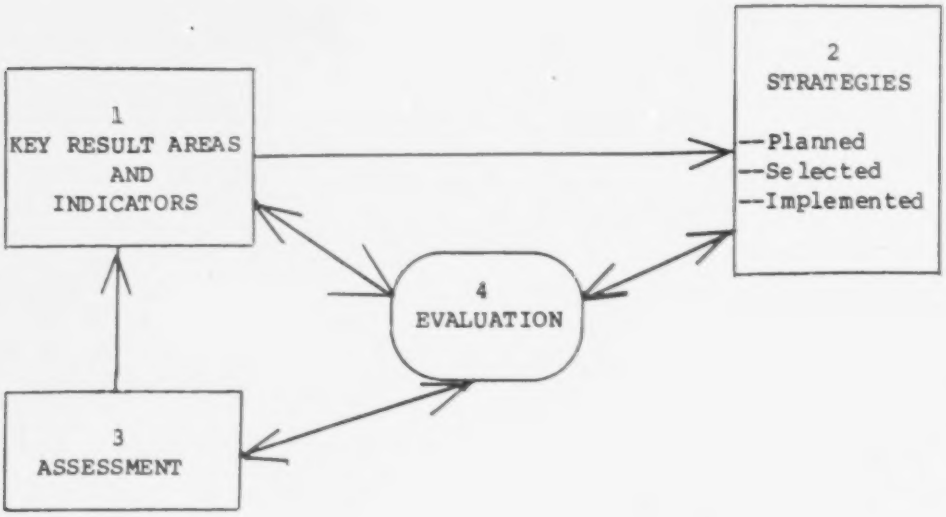
The first action of the Division following adoption of the planning approach to be used was to identify an ad hoc committee with representation from AVTI administration, staff, and students that would work collaboratively with the Division in the planning activity (see Attachment A). The ad hoc committee met on four occasions for approximately six hours each time. In addition, the planning activities were reviewed by the membership of the AVTI Directors' Association on two occasions. The planning approach adopted required the planners to respond to four questions, the answers to which identified the central features of the planning process.

FOUR PLANNING APPROACH QUESTIONS

Questions	Features of Planning Process
1. What future do we want?	Key Result Areas: Key result areas are ideal outcomes on which value is placed and to which resources are directed.
2. What results would be seen when the desired future is accomplished?	Indicators: Indicators are observable signs or evidence that results are being achieved.
3. How will we get to the desired future?	Strategies: Strategies are the means by which to achieve key results. They include the organization of human and material resources to achieve specified results. Strategies are planned, evaluated, selected, and implemented.
4. How will we know if our strategies are effective?	Assessment: Assessment is a measurement procedure by which to determine if indicators are present, thereby signifying results are being achieved.
	Feedback: The measured results are compared with the indicators and the degree of progress toward ideal results is noted. This information indicates the effectiveness of the strategies and is the basis for any necessary revisions of the strategies.

THE PLANNING MODEL

The figure below illustrates the phases in the development of the plan and its implementation.



1. The planning activity begins with the identification of key result areas and indicators. Indicators are analyzed to determine factors related to the achievement of the key result areas. During this phase, external current and future environmental conditions are also analyzed to determine their impact on the achievement of the key result areas.

2. Strategies are:

   a. Planned to achieve the identified factors on each indicator.
   b. Selected on the basis of their cost-effectiveness.
   c. Implemented.

3. Assessment is conducted on the indicators. Measurements are compared with the indicators to determine the strategies' effectiveness.

4. Evaluation is an interactive process conducted throughout the planning model which ensures the reliability and accuracy of the other steps. In the absence of such reliability and accuracy, revisions are made at any point in the model.

If the appropriate indicator or indicators are present, the planned strategies are considered successful. If they are not, the planning cycle may begin again with further analysis of the indicators and external environmental factors and necessary revision of the strategies.

THE OUTCOME OF THE PLANNING PROCESS

KEY RESULT AREAS

The AVTI ad hoc committee formulated the following key result areas using the planning model just described:

- o RESPOND TO THE NEEDS OF STUDENTS FOR VOCATIONAL-TECHNICAL TRAINING
- o RESPOND TO THE DEMANDS OF THE EMPLOYMENT MARKET FOR SKILLED DYNAMIC WORKERS
- o EFFICIENT USE OF HUMAN AND CAPITAL RESOURCES

INDICATORS

Indicators of the achievement of these results have been identified and defined in relationship to instructional programs and support services--the cost centers in the AVTI system. A list of these indicators follows:

INSTRUCTIONAL PROGRAMS AND SUPPORT SERVICES INDICATORS

	Indicators	
Key Result Area	Instructional Programs	Support Services
- Respond to the needs of students for vocational-technical training	Students satisfied with training program. Students complete training program. Special needs students served. Programs provided within a geographic range.	Students satisfied with student support services.
- Respond to demand of employment market for skilled dynamic workers	Students placed in training-related employment. Employers satisfied with AVTI-trained employees.	

INSTRUCTIONAL PROGRAMS AND SUPPORT SERVICES INDICATORS (cont'd)

Key Result Area	Indicators	
	Instructional Programs	Support Services
- Efficient use of human and capital resources	Efficient use of instructional staff. Efficient ratio of instructional cost per average daily membership (ADM). Efficient ratio of instructional cost per completor.	Efficient use of student support service staff. Efficient use of administrative staff. Efficient use of plant operation staff. Efficient ratio of student support service cost per ADM. Efficient ratio of student support service cost per completor. Efficient ratio of media/library costs per ADM.

The following indicators are sensitive to changes in enrollments: efficient use of instructional staff, support service staff, and administrative staff; instructional cost per ADM ratio; support service cost per ADM ratio; and plant operation cost per ADM ratio. These indicators and related measures will also provide information regarding costs which will allow services to be curtailed if it is necessary for the legislature to reduce the level of funding.

Other indicators such as related employment placement of completors, employer satisfaction with AVTI-trained employees, and student satisfaction with programs and services, are sensitive to the quality of instructional and support services. These indicators and related measures will provide necessary information for the planning of strategies to improve services in all areas whether conditions of decline in resources and/or enrollments exist or not.

PROGRAM REVIEW MATRIX

Measures of the performance of instructional programs and support services on the indicators have been developed. Data related to some of the measures are available and plans have been made to collect data on the remainder of the measures. Performance data on the indicators can be displayed in a "program review matrix" similar to that which follows. (The total array of key result areas and indicators for instructional programs and support services can be found in Attachment B.)

PROGRAM REVIEW MATRIX

Key Result Area	Indicator	Programs A	Programs B	Programs C
Respond to needs of students for vocational-technical training	Students complete training	75% Completed Ranked 2nd	82% Completed Ranked 1st	70% Completed Ranked 3rd
Respond to demand of employment market for skilled dynamic workers	Related employment	85% Placed Ranked 3rd	100% Placed Ranked 1st	90% Placed Ranked 2nd
Efficient use of human and capital resources	Instructional cost per ADM	$2,739 per ADM Ranked 3rd	$2,376 per ADM Ranked 1st	$2,711 per ADM Ranked 2nd

NOTE: Program A ranked second in responsiveness to the needs of students for vocational-technical training (75% completed training) and third in responsiveness to the demands of the employment market (85% placed) and in efficient use of human and capital resources ($2,739 per ADM). Therefore, Program A would be recommended for curtailment first.

Data will be provided to the institutions regarding their programs and support services. These data can be used by institutional personnel to examine operations for which they have direct responsibility. Managers having knowledge of the contextual factors unique to the operation of programs and services in the local setting will be better prepared to make informed decisions under conditions of changing levels of enrollments and resources. Data will also be available so that all similar programs can be examined at the state level, and recommendations can be made with regard to maintaining or curtailing programs and services.

Implementation of the plans outlined in the preceding sections related to program and support service review will begin during the 1983 budgeting cycle.

ENROLLMENT STATUS

At this time, according to the Division of Vocational-Technical Education, the preliminary headcount of students enrolled in the thirty-three AVTIs shows an increase from 31,233 in 1981 to 31,782 in 1982--a growth of 1.8%. Fourteen of the institutions experienced enrollment declines from the 1981 figures. These declines ranged from -0.5% to -14.5%. The largest change was at an institution which had an enrollment of 2,359 in fall, 1981 and 2,017 in fall, 1982 (-14.5%).

According to the Division of Vocational-Technical Education, average daily membership increased from 31,400 in 1977-78 to 34,977 in 1981-82 (+11.4%). Projected enrollments of 35,760 for 1982-83 are 2.2% above the 1981-82 level. The average daily membership enrollments and enrollment projections for the thirty-three institutions from 1973-74 to 2000-01 are provided in the following table.

AREA VOCATIONAL-TECHNICAL INSTITUTES
AVERAGE DAILY MEMBERSHIP (ADM) ENROLLMENTS, 1973-74 TO 2000-01

	DVTE[1]	HECB[2] Low	% Change from 1981-82	HECB[2] High	% Change from 1981-82
1973-74	23,746				
1974-75	25,825				
1975-76	28,601				
1976-77	30,533				
1977-78	31,400				
1978-79	31,002*				
1979-80	31,712				
1980-81	34,362				
1981-82	34,977**	31,705	--	32,797	--
1982-83	35,760	32,239	+1.7%	33,495	+2.1%
1983-84		32,195	+1.5	33,434	+1.9
1984-85		31,980	+0.9	33,149	+1.1
1985-86		31,469	-0.7	32,574	-0.7
1986-87		31,178	-1.6	32,239	-1.7
1987-88		31,129	-1.8	32,168	-1.9
1988-89		31,338	-1.2	32,394	-1.2
1989-90		31,361	-1.1	32,432	-1.1
1990-91		31,131	-1.8	32,189	-1.9
1991-92		30,159	-4.9	31,149	-5.0
1992-93		28,875	-8.9	29,806	-9.1
1993-94		28,163	-11.2	29,068	-11.4
1994-95		27,862	-12.1	28,794	-12.2
1995-96		27,608	-12.9	28,574	-12.9
1996-97		27,036	-14.7	28,002	-14.6
1997-98		27,441	-13.4	28,462	-13.2
1998-99		27,662	-12.8	28,714	-12.4
1999-00		26,973	-14.9	27,959	-14.8
2000-01		26,869	-15.3	27,846	-15.1

[1]Division of Vocational-Technical Education actual ADMs, 1973-74 to 1981-82; projected 1982-83.

[2]Minnesota Higher Education Coordinating Board ADM projections.

*Three of the thirty-three schools experienced strikes.
**Seven of the thirty-three schools experienced strikes.

As the data indicate, in 1981-82 the actual average daily membership (ADM) was 2,180 above the Minnesota Higher Education Coordinating Board predicted high level. The high projections indicate that the enrollment decline will begin in 1983-84 and by 1991-92 will have declined by -5.0% when compared with 1981-82 enrollments. If actual enrollments continue to be higher than projected enrollments, as was the case in the previous year, this decline will be less than projected. The proposed plan to address potentially declining enrollments through collection and review of performance information will be effective in dealing with enrollment changes.

RESOURCE STATUS

In 1981-82, AVTI ADM enrollment was 34,977 and the system was funded at $103,588,970. In 1982-83, with enrollments projected at 35,760 ADMs (an increase of 783 or 1.7%), the system was funded at $101,791,280 (a decrease of $1,797,690 or -1.0%). This decrease in funding took place during a period of substantial inflation, particularly in teacher's salaries. The system accommodated this lower level of funding and the inflationary increase by reducing sections and support services, curtailing programs, and delaying the purchase of instructional equipment. Instructional staff contract reductions and terminations totaled approximately 150 full-time equivalents (FTEs) and support service contract reductions and terminations amounted to 50 FTEs. This resulted in a savings of approximately $3,500,000.

Programs are monitored by the Division of Vocational-Technical Education to ensure that a minimum ratio of 10 ADMs to one FTE is maintained. During 1982, six discontinued programs resulted in a savings of almost $250,000. Five more programs recommended for closure at this time would result in a savings of approximately $200,000.

At the same time that aid to AVTIs was reduced, tuition paid by students was increased. The chart below shows the significance of the changes in tuition levels:

RESIDENT AND NONRESIDENT TUITION, 1981-1983

Year	Resident	Nonresident
1981	$2.13 per day	$5.33 per day
1982	$2.50 per day	$6.25 per day
1983	$3.20 per day	$8.00 per day

COOPERATIVE EFFORTS TO ADDRESS DECLINING ENROLLMENTS AND RESOURCES

In anticipation of declining resources and at the request of the AVTI directors, the first of a series of meetings encouraging cooperation was held in Marshall regarding the southwestern area vocational-technical institutes. The Vocational Division staff encouraged the administrators and local boards of education to consider cooperative efforts that would increase services to students and, in some instances, provide cost savings. The following are examples of AVTI suggested cooperative efforts:

- joint programs - second year specialization and transfer
- rotating offerings - one year
- single recruitment plan - advertising - visits
- single course catalog
- joint bookkeeping and recordkeeping
- central placement office
- intermediate district - joint powers
- host district and satellite campus - single administration
- share financial aid offices with paraprofessionals at each campus
- joint purchasing
- joint recreation program
- joint teacher in-services

Preliminary study has been undertaken to determine the relationship of various cooperative efforts and savings. Data from the AVTI system suggest that economies related to size do not follow the principle that the larger the institution, the lower the cost of operation. Cost centers may be differentially affected by size.

During the 1983 legislative session, the Department of Education will introduce legislation which will facilitate cooperation among locally controlled AVTI districts. The legislation will authorize AVTI districts to form consortia for the purposes of providing secondary, postsecondary, and adult vocational-technical education to the members of the consortia and other non-participating school districts in a mutually agreeable manner. Passage of this permissive legislation should enhance cooperation among AVTI districts and institutes.

Cooperative efforts to provide quality educational experiences exist between the AVTIs and other postsecondary institutions. The Minnesota Higher Education Coordinating Board report, "Factors that Affect Cooperation Between Minnesota Postsecondary Institutions with Coordinating Board Recommendations," (January 28, 1982) provides information on formalized arrangements. Selected cooperative programs are listed below.

COOPERATIVE ASSOCIATE DEGREE PROGRAMS AVTIs AND COLLEGIATE INSTITUTIONS

AVTI	PROGRAM TITLE	COLLEGIATE INSTITUTION
Anoka AVTI	Aviation Administration	Anoka-Ramsey CC
	Air Traffic Control	Anoka-Ramsey CC
	Medical Records Technician	Anoka-Ramsey CC
	Occupational Therapy Assistant	Anoka-Ramsey CC
	Child Development Assistant	Anoka-Ramsey CC
	LPN/RN	Anoka-Ramsey CC
	EEG Technician	Anoka-Ramsey CC
	Respiratory Technician	Anoka-Ramsey CC
Bemidji AVTI	LPN/BSN	Univ. of MN
		Univ. of ND
		Northland CC
Dakota County AVTI	Architectural Technology	Inver Hills CC
Duluth AVTI	Forest Harvesting Technology	Vermilion CC
East Grand Forks AVTI	LPN/RN	Univ. of MN, Crookston
		Univ.of ND
		Northland CC
Eveleth AVTI	Optical Management	Mesabi CC
		Hibbing CC
		Vermilion CC
Faribault AVTI	Medical Laboratory Technician	Mankato State Univ.
Hennepin Technical Centers	Metallurgical/Power Metal	North Hennepin CC
	Plastics Technology	North Hennepin CC
	Dental Lab	North Hennepin CC
	Manufacturing Management	North Hennepin CC
	Construction Supervision	North Hennepin CC
Hibbing AVTI	Medical Lab Technician	Hibbing CC
	Law Enforcement	Hibbing CC
Minneapolis AVTI	Data Processing	Minneapolis CC
Moorhead AVTI	Medical Records Technician	Moorhead State Univ.

COOPERATIVE ASSOCIATE DEGREE PROGRAMS AVTIs AND COLLEGIATE INSTITUTIONS (cont.)

AVTI	PROGRAM TITLE	COLLEGIATE INSTITUTION
916 AVTI	Dietetic Technician	Lakewood CC
	Prosthetics Practitioner	Univ. of MN
	Orthotic Practitioner	Univ. of MN
	Child Development	Lakewood CC
Rochester AVTI	Human Services Technician	Rochester CC
Thief River Falls AVTI	LPN/RN	Northland CC
Willmar AVTI	LPN/RN	Willmar CC

In addition to these formal cooperative arrangements, many AVTIs have other cooperative arrangements with other postsecondary systems.

SUMMARY

The plan for the Area Vocational-Technical Institutes which has been outlined in this report is coordinated with the Statewide Comprehensive Plan for Vocational-Technical Education. The AVTI plan which focuses on responsible management has two major thrusts. The first thrust is promotion of a process for the review of programs and support services currently in operation in the AVTIs. Information generated through the review process can be used for management decisions at both the local and state levels. Furthermore, the process is flexible in that it is capable of responding to increasing or decreasing enrollment and funding levels. The second thrust of the plan is a statewide effort to promote voluntary collaboration and cooperation among postsecondary institutions. Such collaborative efforts can ensure that institutional missions are not diluted, that students are provided maximum educational opportunities, that excellence in offerings is achieved, and that return on investment is maximized.

The plan for the AVTIs has focused on reduced financial resources and potential enrollment declines, both highly significant issues. It is equally critical, however, that legislators and others responsible for the economic health and development of the state realize that these limited resources must be carefully allocated; otherwise, the AVTIs will be crippled in their ability to respond to the needs of agriculture, industry, and business for trained workers. Education is crucial to maintaining and attracting jobs. As business and industry retool, jobs in some sectors will grow and new jobs will evolve. If resources are wisely and judiciously allocated, vocational-technical education will be in a position to design and provide training which will equip Minnesotans to handle the future.

AVTI AD HOC COMMITTEE ON PLANNING FOR THE FUTURE

Representing AVTI Directors:

Elroy Burgeson
Granite Falls AVTI
Highway 212 West
Granite Falls, MN 56241

Stan Edin
Staples AVTI
Staples, MN 56479

Dewain Englund
Canby AVTI
Canby, MN 56220

Orley Gunderson
Thief River Falls AVTI
Highway #1 East
Thief River Falls, MN 56701

Don Hamerlinck
St. Cloud AVTI
1540 Northway Drive
St. Cloud, MN 56301

Elden Johns
Duluth AVTI
2101 Trinity Road
Duluth, MN 55811

Viril Layton
Faribault AVTI
1225 Southwest Third Street
Faribault, MN 55201

William Lundell
Minneapolis Public Schools
1415 Hennepin Avenue
Minneapolis, MN 55403

Vern Maack
Alexandria AVTI
1600 Jefferson Avenue
Alexandria, MN 56308

Lyle Rahn
Suburban Hennepin AVTI
1820 North Xenium Lane
Minneapolis, MN 55441

Representing AVTI Assistant Directors

Association:
Keith Togstad
Moorhead AVTI
1900-28th Avenue South
Moorhead, MN 56560

Representing AVTI Teachers:

Ralph Knaap
Pipestone AVTI
North Hiawatha
Pipestone, MN 56164

Joanne Wandrei
Minneapolis AVTI
1415 Hennepin Avenue South
Minneapolis, MN 55403

Representing AVTI Students:

Terry Andrew, President
MVTSA
St. Paul TVI
235 Marshall Avenue
St. Paul, MN 55102

Dave Barnard
8407 Fremont Avenue South
Bloomington, MN 55420

Kathy Wittrock
Agriculture Banking Service
Pipestone AVTI
Pipestone, MN 56164

Representing State Staff:

Deena Allen
Bob Babcock
Rosemary Fruehling
Helen Henrie
Bill Hohenhaus
Melvin Johnson

Ex officio:

William Knaak

SUPPORT SERVICE REVIEW MATRIX

KRA:	RESPOND TO STUDENTS	EFFICIENCY							
INDICATOR	1 Students Satisfied With Student Services	2 Ratio of Student Services Costs/ADM	3 Ratio of Student Services Staff/ADM	4 Ratio of FTE Administrators to ADM	5 Ratio of Administrative Costs/ ADM	6 Ratio of Media and Library Costs/ADM	7 Ratio of Plant Operation Costs/ ADM	8 Ratio of Plant Operation Costs/ Sq. Ft.	9 Ratio of Plant Operation Staff/ Sq. Ft.
A									
B									
C									
D									

The value in such a system for support service review is not found in the final index for each service, but in the recognition of several evaluation criteria, each service's relative strengths and weaknesses when measured against these criteria, and the acknowledgement of these at the time of decision making.

PROGRAM REVIEW MATRIX

KRA:	RESPONSIVENESS TO STUDENTS			RESPONSIVENESS TO EMPL. MARKET		EFFICIENCY		
INDICATOR	1 Students Satisfied	2 Special Needs Students Served	3 Programs Provided in Geo. Range	4 Students Complete Programs	5 Employers Satisfied	6 Related Placement	7 Utilization of Instructional Staff	8 Ratio of Instructional Cost Per ADM	9 Ratio of Instructional Cost Per Completor
Programs: A									
B									
C									
D									

The value in such a system for program review is not in the final index for each program, but in the recognition of several evaluation criteria, each program's relative strengths and weaknesses when measured against these criteria, and the acknowledgement of these at the time of decision making regarding pro-programming.